Claims:

1. A process for the microbial leaching of sulfidic materials using microorganisms of the *Thiobacillus* genus, characterized in that the leaching fluid includes an amino acid selected from cysteine, methionine or derivatives thereof, or a mixture of said compounds.

2. The process according to claim 1, characterized in that the leaching fluid includes both the microorganisms of the *Thiobacillus* genus and the amino acid or derivatives thereof or a mixture of these compounds.

3. The process according to claim 1, characterized in that the leaching fluid includes the amino acid or derivatives thereof or a mixture of said compounds, and the microorganisms of the *Thiobacillus* genus are added to the discharging fluid.

4. The process according to ~~any of claims 1 to 3~~ claim 1, characterized in that the concentration of amino acid, amino acid derivative or of the mixture in the aqueous leaching fluid is $\leq 8 \times 10^{-3}$ M.

5. The process according to ~~any of claims 1 to 4~~ claim 1, characterized in that the pH value of the leaching fluid is adjusted to 1-4, preferably to 1.5-2.0.

6. The process according to ~~any of claims 1 to 5~~ claim 1, characterized in that *T. ferrooxidans* is used as *Thiobacillus* species.

7. Use of an amino acid selected from cysteine, methionine, or derivatives thereof, or a mixture of

said compounds in the microbial leaching of sulfidic materials.

8. The use according to claim 7, characterized in that the sulfidic materials are sulfide ores, preferably pyrite.

Add B1